

great numbers of their fluffy winter nests and the runways leading to them were left exposed. Not hibernating, they had consumed most of the vegetation in many areas and left the surface littered with shredded grasses and sedges. During June many lemmings were found dead, and it is possible that exhaustion of the food supply and starvation had been an automatic brake on their increase.

These fluffy nests, 15 cm to 30 cm in diam, with their runways created ideal environments for the three major types of arthropods and large numbers were consistently found in them. From one nest about 1,100 springtails, 100 mites, and 40 *Spaniotoma* larvae were taken. From another nest 1,670 *Spaniotoma* larvae, 545 mites, and 2,830 springtails were counted. Other invertebrates such as oligochaete worms and staphylinid beetles are also found here regularly. The surrounding tundra by contrast contained far fewer numbers of these, and it is obvious that this part of the arthropod fauna fluctuates with the numbers of lemmings and is largely dependent on them. When the lemmings increase too greatly they consume plants faster than they can grow in this cold climate and so starve themselves. This may lead to a general decrease in the three major arthropod groups, followed by a luxuriant development of the vegetation, and thus prepare the basis for another cycle. A more comprehensive report will be given elsewhere.

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Temperature and Man

Associating the Dark Ages with a receding polar ice cap and a warmer climate (Clarence A. Mills, *Science*, 1949, 110, 267) leads to some difficulty, if the idea is examined in the light of world history. *World* is used in a broad enough sense to include area outside that in which Western civilization has developed. One of the more advanced periods in Chinese history, the Tang dynasty, coincided with the Dark Ages. The culture of the Indian civilizations of Central and South America of the same period is worthy of respect. Even if we confine

our consideration to Europe and North Africa, we notice that while the regression of the polar ice cap was creating optimum temperatures for human activity in the Nordic regions, purportedly stimulating the inhabitants to exploration and settlement, the Islamic world was expanding with considerable energy in the unseasonably warm areas of the Mediterranean.

It is indicated in the paper under discussion that the greater proportion of the Presidents of the United States of America and the persons included in Who's Who were conceived in the more invigorating seasons of the year, yet nothing is said of the seasonal distribution of conceptions of the populace as a whole.

If human activity directed towards the building and maintenance of civilizations could be soundly correlated with environmental temperature, it would still be necessary to recognize indirect effects of temperature upon man such as the effect of temperature upon his natural enemies, particularly microorganisms; the necessity for more forethought and providence where he is faced with a long season in which plant life is nonproductive and during which he must protect himself from the rigors of the climate.

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... Among other amazing statements, Dr. Mills says that "college students, given the standard aptitude or intelligence tests at Cincinnati latitudes across the country, achieve ratings only 60 percent as high in summer heat as in winter cold." This would mean that psychological tests are quite worthless for measuring intelligence at Cincinnati, but can be used with reasonable reliability for determining temperatures. If that statement were true, most people rated in winter as of average intelligence would rate as feeble-minded in summer, and some of them would be classified as imbeciles. I don't think that any competent psychologist—even in the hottest Cincinnati summer—would agree with Dr. Mills on this point.

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Scientific Book Register

Harvey Cushing: Surgeon, Author, Artist. Elizabeth H. Thomson. New York: Henry Schuman, 1950. 347 pp. \$4.00.

Smith's Introductory College Chemistry. 3rd ed. William F. Ehret. New York: Appleton-Century-Crofts, 1950. 511 pp. \$4.25.

Applied Sedimentation. Parker D. Trask, Ed. New York: John Wiley; London: Chapman & Hall, 1950. 707 pp. \$5.00.

Forest Products: Their Sources, Production, and Utilization. A. J. Panshin *et al.* New York-London: McGraw-Hill, 1950. 549 pp. \$6.00.

Chemical Developments in Thyroidology. William T. Salter. Springfield, Ill.: Charles C. Thomas, 1950. 87 pp. \$2.00.

Human Ability, a continuation of "The Abilities of Men." C. Spearman and L. L. Wynn Jones. London-New York: Macmillan, 1950. 198 pp. \$2.50.

Cosmical Electrodynamics. H. Alfvén. New York: Oxford Univ. Press, 1950. 237 pp. \$5.00.

The Autobiography of Robert A. Millikan. New York: Prentice-Hall, 1950. 311 pp. \$4.50.

Heterocyclic Compounds: Three-, Four-, Five-, and Six-Membered Monocyclic Compounds Containing One O, N, and S Atom, Vol. 1. Robert C. Elderfield, Ed. New York: John Wiley; London: Chapman & Hall, 1950. 703 pp. \$11.00.